

REMARKS / ARGUMENTS

The action by the Examiner in this application, together with the references cited, have been given careful consideration. Following such consideration, claim 6 has been cancelled, claims 2, 4, 8, 9, and 12-14 remain unchanged, and claims 1, 3, 5, 7, 10, and 11 have been amended to define more clearly the patentable invention Applicants believe is disclosed herein. This amendment is presented according to "revised amendment practice" 37 C.F.R. 1.121 effective July 30, 2003. It is respectfully requested that the Examiner reconsider the claims in their present form, together with the following comments, and allow the application.

As the Examiner well knows, the present invention is directed to a system for increasing the concentration of a gaseous or vapor phase in a sterilization or decontamination system. In known vaporized hydrogen peroxide (VHP) decontamination systems, VHP is continuously conveyed through a room or isolator. VHP exiting the isolator or room is directed to a destroyer to break down the VHP into water and oxygen. Such an arrangement allows the concentration of vaporized hydrogen peroxide within the room or isolator to be maintained at a desired concentration.

During a conditioning phase, a generator is used to generate sterilant and to introduce the sterilant into the circulation system. However, because the destroyer is disposed upstream of the generator in a closed loop system, the vaporized hydrogen peroxide is destroyed as it exits the room or isolator to be decontaminated even during a conditioning phase. As a result, the generator must continuously introduce new sterilant into the circulation system to replace sterilant that has been destroyed. Such a method of operation limits the rate at which the

concentration of sterilant can be increased within the isolator or room during a conditioning phase.

The present invention provides a decontamination system that increases the rate at which the concentration of VHP can be increased within a room or isolator. The decontaminating system of the present invention includes a closed loop system for supplying vaporized hydrogen peroxide to a region. In one embodiment, the closed loop system includes a first flow path having a generator for generating vaporized hydrogen peroxide and a destroyer disposed therein. The destroyer is disposed upstream of the generator. In other words, the destroyer and the generator are arranged "in series" along the same path. The VHP flows along the first flow path through the destroyer and the generator. The closed loop system of the present invention also includes a bypass conduit that defines a second fluid flow path. Fluid flowing along the second fluid flow path bypasses the destroyer and flows through the generator.

It is respectfully submitted that none of the cited references teaches, suggests, or shows a circulation system having a first fluid flow path and a second fluid flow path as presently set forth in the claims, or the advantages thereof.

In response to the Examiner's rejections, claims 1, 3, 5, 7, 10, and 11 have been amended. Claim 1 has been amended to indicate that the "...closed loop circulating system defines a first fluid path." Claim 1 further defines the destroyer as being disposed "within said first fluid path upstream of said generator...."

Claim 5 has been amended to define the destroyer as "...being disposed upstream of said generator in a first fluid path...."

Claim 10 has been amended to define a blower, a source for delivering vaporized sterilant, and a destroyer, all being disposed within a first fluid path. Claim 10 also defines a bypass conduit for directing flow through the closed loop conduit system and through a second fluid path around the destroyer. The blower and the source for delivering vaporized sterilant are disposed within the second fluid path.

Claims 3 and 11 have been amended as required by the Examiner to address informalities.

The Examiner has rejected claims 1-14 under 35 U.S.C. 102(b) as being anticipated by PCT International Publication No. WO01/21223 A1 to Martin et al. The Martin et al. reference discloses an apparatus for sterilizing a sealable enclosure that includes a fluid circuit that has two "parallel branches." A "first parallel branch" contains means to deactivate a sterilant, i.e., the destroyer, and means to dehumidify the carrier gas. A "second parallel branch" contains means to heat the gas and means to supply a sterilant vapor or vapors, i.e., the generator, to the carrier gas. In other words, the generator and destroyer are arranged "in parallel" and are not disposed "in series" along the same path.

Accordingly, the Martin et al. reference does not teach, suggest, or show a vapor decontamination system that includes a destroyer being "...disposed within said first fluid path upstream of said generator..." for generating vaporized hydrogen peroxide as defined in claim 1. Likewise, the Martin et al. reference does not teach, suggest, or show a decontamination system for decontaminating a region having a destroyer that is "...disposed upstream of said generator in a first fluid path..." as defined in claim 5.

Referring now to claim 10, the Martin et al. reference does not teach, suggest, or show a closed loop, flow-through vapor phase decontamination system that includes a blower, a source for delivering vaporized sterilant, and a destroyer that are disposed in series within a first fluid path. The Martin et al. reference also does not teach, suggest, or show a bypass conduit for directing fluid through a second fluid flow path around a destroyer, wherein said blower and said source for delivering vaporized sterilant are disposed within said second fluid path.

Claims 1 and 4-14 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,906,794 to Childers in view of U.S. Patent No. 5,334,355 to Faddis.

The Childers reference discloses a method and system for conducting a continuous operation, closed loop, flow-through vapor phase decontamination. The Childers reference discloses a system for vaporizing a liquid decontaminant and delivering the vaporized decontaminant into, through, and out of a sealable chamber through a closed loop conduit circuit. The system includes a first flow path and a second flow path. A first fluid flow line connects the first flow path to a dryer. A second fluid flow line bypasses the dryer. The Childers reference does not teach, suggest, or show a bypass conduit that bypasses a destroyer. Instead the Childers reference teaches a bypass around a dryer.

The Faddis reference discloses a mixing device for use with a medical instrument sterilization system that utilizes ozone as a sterilization agent. The Faddis reference discloses a conduit for circulating a gas into a sterilization chamber. A destroying device is disposed in a conduit that conducts ozone from the sterilization chamber. After gases from the sterilization chamber pass through the destroying device, the gases are discharged into the atmosphere.

In other words, the Faddis reference discloses a flow path including an ozone generator, a sterilization chamber, and a destruction chamber, wherein the destruction chamber discharges to the atmosphere. Thus, the Faddis reference discloses a flow-through system. The Faddis reference does not teach, suggest, or show a closed loop circulating system as required by claims 1 and 10.

Neither the Childers reference nor the Faddis reference teaches, suggests, or shows a vapor decontamination system for decontaminating a defined region that includes a destroyer being disposed “upstream of said generator...” as required by claims 1 and 5. Further, neither reference teaches, suggests, nor shows a “bypass conduit” as required by claims 1, 5, and 10.

Referring now to claim 10, neither the Childers reference nor the Faddis reference teaches, suggests, or shows a closed loop, flow-through vapor phase decontamination system that includes a blower, a source for delivering vaporized sterilant, and a destroyer disposed within a first fluid path and a bypass conduit for directing flow through a second fluid flow path *around the destroyer*.

To summarize, the present invention is directed to a system for increasing the concentration of a gaseous or vapor phase sterilant in a sterilization or decontamination system. The decontamination system of the present invention includes a closed loop system for supplying vaporized hydrogen peroxide to a region. In one embodiment, the closed loop system includes a first flow path having a vaporized hydrogen peroxide generator and a destroyer disposed therein. The destroyer is disposed along the first path upstream of the generator. A bypass conduit defines a second fluid flow path. Fluid flowing along the second fluid flow path bypasses the destroyer and flows through the generator. The Applicants respectfully submit that the cited

references do not teach, suggest, or show a circulation system having a bypass conduit around a destroyer as currently claimed.


The prior art made of record and not relied upon has also been reviewed. It is respectfully submitted that none of these additional references teaches, suggests, or shows the Applicant's invention as defined by the present claims.

It view of the foregoing, it is respectfully submitted that the present application is now in proper condition for allowance. If the Examiner believes there are any further matters which need to be discussed in order to expedite the prosecution of the present application, the Examiner is invited to contact the undersigned.

If there are any fees necessitated by the foregoing communication, please charge such fees to our Deposit Account No. 50-0537, referencing our Docket No. ST8723US.

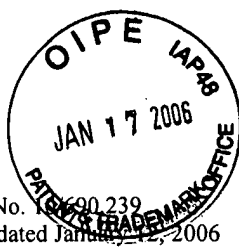
Respectfully submitted,

Date: January 12, 2006



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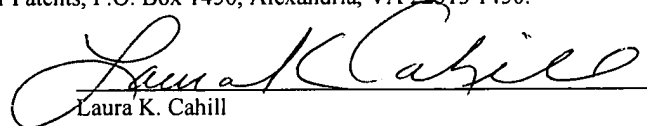


Application No. 06/002,239
Amendment dated January 12, 2006
RESPONSE TO OFFICE ACTION dated September 14, 2005

CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8

I hereby certify that this correspondence (along with any paper referenced as being attached or enclosed) is being deposited on the below date with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to MAIL STOP AMENDMENT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Date: **January 12, 2006**


Laura K. Cahill